

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

Claims 1-14 (Canceled).

15. (Currently Amended) A distributed network management system as recited in claim 16, further comprising:

- (a) a hub server; and
- (b) a remote server;
- (c) wherein said remote network server is capable of communicating with a network device and said hub server; and
- (d) wherein configuration parameters for said remote network server to communicate with said network device can be propagated between said hub server and said remote network server bidirectionally.

16. (Currently Amended) A distributed network management system, comprising:

- (a) a network server capable of communicating with a network device; and
- (b) means associated with said network server for deriving state information from said network device using a paradigm (“LTP”) that includes polling said network device and using responses received from said network device to compute a weighted average over a plurality of time periods.

17. (Currently Amended) A system as recited in claim 16, wherein said LTP comprises:

Preliminary Amendment  
Divisional of Ser. No. 09/609,180

- (a) defining a polling interval;
- (b) sending, from an ICMP server, a plurality of pings to an interface address on said network device during said polling interval;
- (c) monitoring the number of pings returned from said network device and converting said number to a percentage based on the number of pings sent;
- (d) sending an SNMP query to said network device and determining operational status of said network device from said SNMP query, said operational status comprising "up", "down", and "unknown";
- (e) using the percentage of pings returned and the SNMP status, generating a status percentage for the polling period by multiplying the percentage pings returned by a constant value associated with said operational status, said constant value comprising a first value if the operational status is "up", a second value if the operational status is "down", and a third value if the operational status is "unknown"; and
- (f) computing a weighted average of the status percentages for current and previous four polling periods and determining the state of the network device from the weighted average.

18. (Currently Amended) A system as recited in claim 16, further comprising:

- (a) means for defining a polling interval;
- (b) means for sending, from an ICMP server, a plurality of pings to an interface address on said network device during said polling interval;
- (c) means for monitoring the number of pings returned from said network device and converting said number to a percentage based on the number of pings sent;

- (d) means for sending an SNMP query to said network device and determining operational status of said network device from said SNMP query, said operational status comprising "up", "down", and "unknown";
- (e) means for using the percentage of pings returned and the SNMP status, generating a status percentage for the polling period by multiplying the percentage pings returned by a constant value associated with said operational status, said constant value comprising a first value if the operational status is "up", a second value if the operational status is "down", and a third value if the operational status is "unknown"; and
- (f) means for computing a weighted average of the status percentages for current and previous four polling periods and determining the state of the network device from the weighted average.

19. (Currently Amended) A system as recited in claim 16, further comprising programming associated with said network server for carrying out the functions of:

- (a) defining a polling interval;
- (b) sending, from an ICMP server, a plurality of pings to an interface address on said network device during said polling interval;
- (c) monitoring the number of pings returned from said network device and converting said number to a percentage based on the number of pings sent;
- (d) sending an SNMP query to said network device and determining operational status of said network device from said SNMP query, said operational status comprising "up", "down", and "unknown";
- (e) using the percentage of pings returned and the SNMP status, generating a status percentage for the polling period by multiplying the percentage pings returned by a constant value associated with said operational status, said constant value

comprising a first value if the operational status is "up", a second value if the operational status is "down", and a third value if the operational status is "unknown"; and

(f) computing a weighted average of the status percentages for current and previous four polling periods and determining the state of the network device from the weighted average.

20. (Currently Amended) A system for deriving state information from a network device, comprising:

- (a) a computer; and
- (b) programming associated with said computer for carrying out the operations of
  - (i) defining a polling interval;
  - (ii) sending, from an ICMP server, a plurality of pings to an interface address on said network device during said polling interval;
  - (iii) monitoring the number of pings returned from said network device and converting said number to a percentage based on the number of pings sent;
  - (iv) sending an SNMP query to said network device and determining operational status of said network device from said SNMP query, said operational status comprising "up", "down", and "unknown";
  - (v) using the percentage of pings returned and the SNMP status, generating a status percentage for the polling period by multiplying the percentage pings returned by a constant value associated with said operational status, said constant value comprising a first value if the operational status is "up", a second value if the operational status is "down", and a third value if the operational status is "unknown"; and

(vi) computing a weighted average of the status percentages for current and previous four polling periods and determining the state of the network device from the weighted average.

Claims 21 – 27 (Canceled).

28. (Currently Amended) A method ~~for distributed network management as recited in claim 29, further comprising:~~

- (a) providing a hub server;
- (b) providing a remote server;
- (c) wherein said remote network server is capable of communicating with a said network device and said hub server; and
- (d) propagating configuration parameters for said remote network server to communicate with said network device between said hub server and said remote network server bidirectionally.

29. (Currently Amended) A method for distributed network management, comprising:

- (a) providing a network server capable of communicating with a network device; and
- (b) deriving state information from said network device using a paradigm (“LTP”) that includes polling said network device and using responses received from said network device to compute a weighted average over a plurality of time periods.

30. (Currently Amended) A method as recited in claim 29, wherein said LTP comprises:

- (a) defining a polling interval;

Preliminary Amendment  
Divisional of Ser. No. 09/609,180

- (b) sending, from an ICMP server, a plurality of pings to an interface address on said network device during said polling interval;
- (c) monitoring the number of pings returned from said network device and converting said number to a percentage based on the number of pings sent;
- (d) sending an SNMP query to said network device and determining operational status of said network device from said SNMP query, said operational status comprising "up", "down", and "unknown";
- (e) using the percentage of pings returned and the SNMP status, generating a status percentage for the polling period by multiplying the percentage pings returned by a constant value associated with said operational status, said constant value comprising a first value if the operational status is "up", a second value if the operational status is "down", and a third value if the operational status is "unknown"; and
- (f) computing a weighted average of the status percentages for current and previous four polling periods and determining the state of the network device from the weighted average.

31. (Currently Amended) A method for deriving state information from a network device, comprising:

- (a) defining a polling interval;
- (b) sending, from an ICMP server, a plurality of pings to an interface address on said network device during said polling interval;
- (c) monitoring the number of pings returned from said network device and converting said number to a percentage based on the number of pings sent;
- (d) sending an SNMP query to said network device and determining operational status of said network device from said SNMP query, said operational status comprising "up", "down", and "unknown";

(e) using the percentage of pings returned and the SNMP status, generating a status percentage for the polling period by multiplying the percentage pings returned by a constant value associated with said operational status, said constant value comprising a first value if the operational status is "up", a second value if the operational status is "down", and a third value if the operational status is "unknown"; and

(f) computing a weighted average of the status percentages for current and previous four polling periods and determining the state of the network device from the weighted average.

32. (New) A system as recited in claim 16, wherein said LTP comprises:  
defining a polling interval;  
sending, from an ICMP server, a plurality of pings to an interface address on said network device during said polling interval;  
monitoring the number of pings returned from said network device and converting said number to a percentage based on the number of pings sent;  
using the percentage of pings returned, generating a status percentage for the polling period by multiplying the percentage pings returned by a constant value; and  
computing a weighted average of the status percentages for a current and a plurality of previous polling periods and determining the state of the network device from the weighted average.

33. (New) A system as recited in claim 32, further comprising:  
sending an SNMP query to said network device and determining an operational status of said network device from said SNMP query, said operational status comprising "up", "down", and "unknown",

wherein said constant value comprises a first value if the operational status is "up", a second value if the operational status is "down", and a third value if the operational status is "unknown".

34. (New) A method as recited in claim 29, wherein said LTP comprises:

- defining a polling interval;
- sending, from an ICMP server, a plurality of pings to an interface address on said network device during said polling interval;
- monitoring the number of pings returned from said network device and converting said number to a percentage based on the number of pings sent;
- using the percentage of pings returned, generating a status percentage for the polling period by multiplying the percentage pings returned by a constant value; and
- computing a weighted average of the status percentages for a current and a plurality of previous polling periods and determining the state of the network device from the weighted average.

35. (New) A method as recited in claim 34, further comprising:

- sending an SNMP query to said network device and determining an operational status of said network device from said SNMP query, said operational status comprising "up", "down", and "unknown",
- wherein said constant value comprises a first value if the operational status is "up", a second value if the operational status is "down", and a third value if the operational status is "unknown".